



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,228	09/25/2006	Kenji Okada	Q97349	3395
23373 7590 10/05/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER MCCLENDON, SANZA L				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
10/05/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,228

Applicant(s)

OKADA ET AL.

Examiner

Sanza L. McClendon

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date 9/06; 8/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION
Information Disclosure Statement

1. The information disclosure statement filed January 31, 2007 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirota (JP 09-309944, herein after JP944).

3. JP944 sets forth a photopolymer composition comprising a photosensitive oligomer having (meth) acrylic groups, an epoxy compound, a photoinitiator, and a cationic photoinitiator. Said photosensitive oligomer is a phenolic resin having (meth) acrylic terminal groups—see section [0005]. The epoxy compound is found in section [0006]. The radical photoinitiator can be found in section [0007]. The cationic photoinitiator is described in section [0008]. In addition JP944 sets forth other components such as vinyl monomers can be added for viscosity adjustment and crosslinking—see [0009]. The vinyl monomers found in section [0009] all appear to have molecular weights below 5000 g/mol. These teachings anticipate claim 1 and 20-21.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP944 (as cited above).

6. JP944 set forth that vinyl monomers can be used as diluents and/or crosslinkers. Said vinyl monomers can be found in section [0009]. JP944 sets forth as a useable diluent in addition to the monomers epoxy acrylate compound derived from glycidyl ethers. Additionally, JP944 sets forth said vinyl monomers and/or oligomers can be used in combination of two or more, wherein the overall addition amount in the composition is from 1 to 50% by weight. The examiner deems that one of ordinary skill in the art using JP944 would have found it obvious to add an epoxy acrylate compound, such as those derived from glycidyl ethers as suggested by the references. The motivation would have been a reasonable expectation of diluting/adjusting the viscosity, as well as, providing adequate crosslinking density to the overall cured composition as suggested by the reference in absence of evidence to the contrary and/or unexpected results.

7. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al (6,964,999).

8. Nakagawa et al sets forth a polymer and a curable composition comprising the same. Said polymer is vinyl polymer having at least one terminal group having the as defined by general formula (1) as set forth in the abstract and the disclosure at column 4, line 9. Nakagawa et al broadly sets forth said vinyl polymer has a least one terminal group defined by general formula 1 but set forth said vinyl polymer comprises preferably from 1.4 to 4 such groups (see column 4, line 17), wherein this is deemed to encompass applicant at least two terminals of the same formula. The main chain can be comprised of (meth) acryloyl moieties or styrenic moieties, wherein (meth) acrylic moieties are preferred—see column

4, lines 26-30. Polymers of butyl acrylate are preferred—see column 5 lines 14-16—and are preferably copolymerized with other monomers. Said useable monomers can be found in column 4, wherein at least some of those found in the instant claims can be found. Thus copolymers of those claimed by applicant are read in the reference (claim 4). The terminal group taught by the reference appears to be the same are evidenced by the overlapping formulas and definitions—claims 1, and 5-6. Said vinyl polymer preferably has a molecular weight distribution of less than 1.8, preferably less than 1.3 and a number average molecular weight preferably from 500 to 100,000, preferably from 3000 to 40,000—see column 5, lines 20-30 and 32-38. These teachings are deemed to encompass the properties of the instant claims—claims 16-17. Said polymers can be obtained by the methods as found in column 5, lines 42-47. Thus claims 11-12 are read in the reference. In column 15, lines 35 to 67, Nakagawa et al sets forth the method of instant claims 7-10—see 1, 2, and 3 as various methods for introducing the terminal structure into the vinyl polymer—claim 15 is deemed read in the reference. Nakagawa et al additionally set forth said vinyl polymer can be obtained by a atom transfer polymerization with a transition metal catalyst, wherein Nakagawa et al teaches copper is preferable—see column 14, lines 47-50 and lines 55-56 and lines 58-59. Thus claims 12-14 are read in the reference.

9. It is noted that Nakagawa et al teaches said curable compositions are preferably free from other monomers in order to prevent emanation of the odors associated with the unreacted monomers; however Nakagawa et al does teach formulations comprising other monomers with the taught vinyl polymer are warranted for various purposes. Nakagawa et al sets forth possible compositions comprising other radical polymerizable groups, such as anionic polymerizable groups containing monomers and oligomers, such as (meth) acrylate ester monomers and oligomers—see columns 19-22, line 2 (claims 18-20). Said monomers and/or oligomers having acrylic groups preferably having a number average molecular weight not greater than 2,000 for compatibility purposes—see column 22, lines 25-30 (claim 21). Said oligomers include epoxy acrylate resin, which are epoxy compounds (applicant's compound b is read in the reference). Additionally said compositions are disclosed as being preferably radiation curable and therefore should include a photoinitiator, such as a free radical photoinitiator in combination with a, optional, iodonium salt—see column 22, lines 35-51 and lines 56-57. The instantly written claims are deemed obvious in view of the teachings in the reference.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sanza L. McClendon/
Primary Examiner
Art Unit 1796

SMc